

**IMAGING APPARATUS AND IMAGE SIGNAL PROCESSING
METHOD PRODUCING WIDE DYNAMIC RANGE**

Abstract of the Disclosure

An imaging apparatus and method provides a wide dynamic range and is capable of displaying an improved color in low-luminance regions, and an image signal processing method thereof. In the imaging apparatus, a first process divides the voltage level of an analog image signal into a plurality of sections and amplifies the analog image signal with a plurality of different gains according to each section, and a second process converts the analog image signal amplified with the different gains into a digital signal, and non-linearly gamma-corrects the digital signal according to each section. The plurality of different gains may be inversely proportional to the luminance level of the analog image signal. Thus, the level of an analog signal in a low-luminance region is amplified with a gain greater than in a high-luminance region before gamma correction, so that signal-to-noise (S/N) ratio in the low-luminance region of an image is increased, thereby improving sensitivity of the image following gamma correction. Accordingly, a wide dynamic range is provided. An optional chrominance controller of the imaging apparatus controls chrominance gain of the digital signal and outputs the result, thereby displaying an improved color in low-luminance regions of the image.